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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
MOSS, KERI A	

ART UNIT	PAPER NUMBER
1743	

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/675,629	DALMIA ET AL.	
	Examiner	Art Unit	
	Keri A. Moss	1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) *1,2 and 7-15* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3-6,16 and 17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-2, drawn to an analytical apparatus that comprises a chromatographic column, classified in class 422, subclass 80.

II. Claims 3-6 and 16-17, drawn to an analytical apparatus comprising a filter, classified in class 422, subclass 71.

III. Claims 7-10, drawn to an analytical apparatus for determining concentration comprising two electrochemical sensors, classified in class 422, subclass 82.05.

IV. Claims 11-15, drawn to a method for determining concentration comprising a separation device, classified in class 436, subclass 177.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different functions where the column of I separates several components, the filter of II eliminates components from the system. In I, several different components may be analyzed separately, but with II, only one component may be analyzed.

3. Inventions I/II and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of

operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different functions. Group III may be used to analyze two different components at the same time, while groups I/II can only analyze one component at a time.

4. Inventions I-III and V are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the process as claimed can be practiced by another materially different apparatus as group V could be practiced using precipitation to separate components.

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

6. Because these inventions are distinct for the reasons given above and the search required for Group I, III and IV is not required for Group II, restriction for examination purposes as indicated is proper.

1. During a telephone conversation with Beatrice Emerson and Wesley Whitmeyer on 3/31/06 a provisional election was made with traverse to prosecute the invention of Group II, claims 3-6 and 16-17. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-2 and 7-15 were withdrawn from further

consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what is "providing a three way contact between said gas, electrode, and ionomer membrane." A direct literal translation would be that the gas provides a three way contact; however, that does not appear to be applicant's intended meaning.

The functional recitation in claim 5 that "[a gas] simultaneously contact[s] said electrode and said ionomer membrane for providing a three way contact between said gas, electrode, and ionomer membrane within said opening" has not been given patentable weight because it is narrative in form. In order to be given patentable weight, a functional recitation must be expressed as a "means" for performing the specified function, as set forth in 35 USC 112, 6th paragraph, and must be supported by recitation in the claim of sufficient structure to warrant the presence of the functional language. In re Fuller, 1929 C.D. 172; 388 O.G. 279.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 3-5 and 16-17 are rejected under 35 U.S.C. 102(b) as anticipated by LaConti (USP 4,820,386). In Figure 6, Laconti discloses an apparatus and method for determining a total concentration of a desired component in a sample, comprising: a reactor (24) for oxidizing or reducing the sample; a filter (36) coupled to said reactor for filtering out undesirable components and for permitting the desired component to pass through; and a detector (10) coupled to said filter for detecting the component. The detector is an electrochemical gas sensor (column 4 lines 7-14). Figure 1 discloses a substrate (parts holding the reservoir 14, diffusion tube 30 and gas flow chamber 40) on which electrodes (22, 24, and 26) are deposited. Figure 6 further discloses an ionomer membrane (20) having a first and second surface; an electrode 22, 24 or 26 in contact with the surface of the substrate; an opening in the form of pores extending from the first surface of the ionomer membrane to the second surface proximate to the electrode for defining a passage in the form of pores (column 3 lines 44-50). A gas is inherently in this porous opening as the LaConti apparatus is not in a vacuum.

3. Claims 3-4, 6 and 16-17 are rejected under 35 U.S.C. 102(a) as being anticipated by Rhodes (USP 6,830,730). Rhodes discloses an electrochemical sensor and a method of its use comprising a thermal oxidizer reactor for oxidizing the sample (column 5 lines 1-5) and the sensor coupled (column 5 line 66) to a filter that filters out undesirable components (column 5 lines 36-38). Rhodes discloses a plurality of electrochemical gas sensors for detecting multiple components (column 14 lines 1-3).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over LaConti. LaConti does not disclose a plurality of electrochemical sensors. It is well known that duplicating parts multiplies the effect. St. Regis Paper Co. v. Bemis Co., 193 USPQ 8, 11; 549 F2d 833 (7th Cir. 1977). Therefore, it would have been obvious to one of ordinary skill in the art to combine a plurality a electrochemical sensors in order to obtain more gas detection in the same amount of time as one sensor.

8. Claims 3-6 and 16-17 are rejected under 35 U.S.C. 103(a) as being obvious over Prohaska (USP 7,013,707) in view of Goken (USP 5,637,506).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the

application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Prohaska discloses an apparatus and method for determining a total concentration of a desired component in a sample, comprising a reactor for oxidizing or reducing the sample, a chromatography column for separating out components and an electrochemical detector comprising a substrate, an ionomer membrane, an opening in the the ionomer membrane and a gas in the opening.

Prohaska does not disclose using a filter but instead teaches using a chromatographic column to separate sample components. It is well known in the art that filtration is an obvious alternative to chromatography. Goken teaches filtration as an alternative to chromatography (column 9 lines 1-15). Goken also teaches that an advantage to filtration is that it cuts down significantly on preparation time (column 9 lines 1-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the '707 patent by replacing the chromatography step with filtration in order to save time, as is indicated by Goken.

Prohaska also does not disclose a plurality of electrochemical sensors for detecing multiple components. It is well known that duplicating parts multiplies the effect. St. Regis Paper Co. v. Bemis Co., 193 USPQ 8, 11; 549 F2d 833 (7th Cir. 1977). Therefore, it would have been obvious to one of ordinary skill in the art to combine a

plurality a electrochemical sensors in order to obtain more gas detection in the same amount of time as one sensor.

Double Patenting

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claims 3-6 and 16-17 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3 of U.S. Patent No. 7,013,707 in view of Goken (USP 5,637,506). The '707 patent does not disclose using a filter but instead teaches using a chromatographic column to separate sample components. It is well known in the art that filtration is an obvious alternative to chromatography. Goken teaches filtration as an alternative to chromatography (column 9 lines 1-15). Goken also teaches that an advantage to filtration is that it cuts down significantly on preparation time (column 9 lines 1-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the '707 patent by replacing the chromatography step with filtration in order to save time.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Prohaska US Pub 2003/0106811 teaches an electrochemical gas sensor with an ionomer membrane.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keri A. Moss whose telephone number is 571-272-8267. The examiner can normally be reached on 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571)272-1700. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KAM 04/03/06

YELENA GAKH
PRIMARY EXAMINER